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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,755	06/20/2001	Jacques Delacoux	R-088-E	5933

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BEEHLER & PAVITT
Suite 330
100 Corporate Pointe
Culver City, CA 90230

EXAMINER

NGUYEN, MICHELLE P

ART UNIT PAPER NUMBER

2851

DATE MAILED: 06/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/886,755

Applicant(s)

DELACOUX, JACQUES

Examiner

Michelle Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-16 and 19-28 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 17, 18, 29 and 30 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Specification

1. The specification is objected to for the following reasons:
 - (a) The pages of the specification including the claims and abstract must be numbered consecutively, starting with 1, the numbers being centrally located above or preferably, below, the text. See MPEP 608.01.
 - (b) The term "Fig. 5" should be removed from the last line of the abstract.
 - (c) In claim 13, lines 2-3, "an optical components" should be --and optical components-- or --and an optical component--.
 - (d) In claim 20, line 2, the term "used" should be removed.
 - (e) In claim 20, line 3, "enabling" should be --enables--.Appropriate correction is required.

Drawings

2. The drawings are objected to for the following reasons:
 - (a) Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
 - (b) The views fail to comply with 37 CFR 1.84 (p) (5) because they include the following reference sign not mentioned in the description: 3.
 - (c) In Figure 1, both reference signs 6 and 8 are used to designate the housing of the video monitor.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 20, 21 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites the limitation "a display device according to claim 8" in line 2. Claim 8 is directed toward a lighting device, not a display device. It is not clear whether applicant intends to claim the lighting device or the display device. Further, if applicant intends to claim the display device, it is not clear with which claim the display device is in accordance.

Claim 21 depends from claim 20, thereby rendering the claim indefinite.

Claim 23 recites the limitation "a depth of more than 100 meters below the surface" in line 3. Applicant does not specify what to which the surface corresponds.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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6. Claims 1, 8, 10, 11, 13 and 16 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 5,956,291 to Nehemiah et al.

With regard to claim 1, Nehemiah et al. disclose a display device comprising a viewing window (faceplate 5) or a screen, a housing (casing 4), and means (pen 550b) for producing an image on the faceplate 5, the display device being characterized in that the casing 4 is completely filled with silicone (see Col. 2, lines 38, 48-51, Col. 4, lines 60-6, Col. 5, lines 15-21, 66-7, Col. 6, lines 50-4, Figs. 1, 4).

With regard to claim 8, Nehemiah et al. disclose a lighting device comprising a screen or a window (faceplate 5), a housing (casing 4), and means (xenon flash tube, microcontroller 502) for producing electromagnetic radiation, the lighting device being characterized in that the casing 4 is completely filled with silicone (see Col. 2, lines 38, 48-51, Col. 4, lines 60-6, Col. 8, lines 52-67, Figs. 1, 4).

With regard to claim 10, Nehemiah et al. disclose a camera (digital camera subsystem 574) for underwater use comprising a viewing window (inherent), a housing (casing 4) and means (integrated lens) for receiving radiation coming from outside the casing 4 and passing through the window, the camera subsystem 574 being characterized in that the casing 4 is completely filled with silicone (see Col. 2, lines 38, 48-51, Col. 4, lines 60-6, Col. 8, lines 55-6, Fig. 4).

With regard to claim 11, Nehemiah et al. teach implicitly the camera subsystem 574 as discussed above with respect to claim 10 to comprise one or more motors for controlling elements (electronic auto-iris shutter) for adjusting the camera subsystem 574 (see Col. 8, lines 63-7).

With regard to claim 13, Nehemiah et al. disclose an optical device comprising a window (faceplate 5) or a viewing screen, a housing (casing 4), and an optical component (LCD 540) receiving radiation which penetrates into the casing 4 by passing through the faceplate 5, or producing and emitting radiation which leaves the casing 4 by passing through the faceplate 5, the optical device being characterized in that the casing 4 is completely filled with silicone (see Col. 2, lines 38, 48-51, Col. 4, lines 60-6, Col. 6, lines 20-31, Figs. 1, 4).

With regard to claim 16, Nehemiah et al. teach the silicone as discussed above with respect to claim 13 to be a gel (see Col. 2, lines 48-51).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,956,291 to Nehemiah et al.

Nehemiah et al. disclose the display device as discussed above with respect to claim 1, wherein the faceplate 5 is to be held in place using a gasketed metal bezel (see Col. 2, lines 47-8). Although Nehemiah et al. do not specify the arrangement of the gasket, the bezel, the faceplate 5 and the casing 4 with respect to one another, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the display device of Nehemiah et al. such that the faceplate is

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disposed between the bezel and the casing, and the gasket is disposed between the bezel and the casing in order to hold in place the faceplate. Further, applicant has not disclosed that the specific arrangement of the gasket, the bezel, the window or screen and the housing with respect to one another solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with these elements having any known arrangement with respect to one another.

9. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nehemiah et al. as applied to claims 2 and 13 above, and further in view of U.S. Patent No. 6,179,423 to Kato et al.

Nehemiah et al. teach the faceplate 5 as discussed above with respect to claims 2 and 13 to be made of glass but do not specify the refractive index of the faceplate 5 with respect to the refractive index of the silicone gel (see Col. 2, lines 43-5). However, Kato et al. disclose a display system, wherein silicone gel is situated behind a glass material as in the display and optical devices of Nehemiah et al. (see Col. 17, lines 27-30). Here Kato et al. teach the refractive indices of the silicone gel and the glass material to be substantially equal in order to reduce surface reflections from the glass material. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fill the casing of Nehemiah et al. with silicone gel having a refractive index identical or close to that of the material constituting the faceplate in order to reduce surface reflections from the faceplate.

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10. Claims 9, 12, 15, 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nehemiah et al. as applied to claims 8 and 10 above, and further in view of U.S. Patent No. 3,717,078 to Ogura.

With regard to claims 9 and 12, Nehemiah et al. teach the silicone as discussed above with respect to claims 8 and 10 to function as a pressure resistant means (see Col. 2, lines 48-51). Here Nehemiah et al. further teach the silicone to be a gel, but do not teach the silicone to be a liquid. However, Ogura discloses a casing structure for enclosing underwater devices such as a camera, wherein a housing (casing 1) is completely filled with silicone (see Col. 1, lines 5-7, 24-37). Here Ogura teaches the silicone to also function as a pressure resistant means, thereby rendering the casing 1 analogous to the casing 4 of Nehemiah et al. Further, Ogura teaches the silicone to be a liquid, thereby rendering silicone of liquid and gel forms art-recognized equivalents with respect to function (see Col. 3, lines 16-9). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute as a filling into the casing of Nehemiah et al. silicone liquid for silicone gel.

With regard to claim 15, Nehemiah et al. teach the casing 4 to be completely filled with silicone as a pressure resistant means but do not specify the color of the silicone (see Col. 2, lines 48-51). However, Ogura discloses a casing structure for enclosing underwater devices such as a camera, wherein a housing (casing 1) is completely filled with silicone (see Col. 1, lines 5-7, 24-37). Here Ogura teaches the silicone to also function as a pressure resistant means, thereby rendering the casing 1 analogous to the casing 4 of Nehemiah et al. Ogura teaches implicitly that when the

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casing 1 contains an underwater device, the silicone must be transparent in the visible range of the spectrum to permit viewing of the underwater device (see Col. 3, lines 20-5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fill the casing of Nehemiah et al. with transparent silicone as taught by Ogura to permit viewing of the optical device.

With regard to method claim 19, the limitations set forth in the claim are inherent to the operation of the camera of the modified invention as discussed above with respect to claim 12.

With regard to method claim 20, Nehemiah et al. disclose a method of filming according to claim 19 in which a display device according to claim 1 is connected to the camera subsystem 574 and enables the scene seen by the camera to be viewed (see Col. 8, line 67 to Col. 9, line 4).

With regard to method claim 21, the limitations set forth in the claim are inherent to the operation of the camera of the modified invention as discussed above with respect to claim 12.

With regard to method claims 22-25, it is well known in the art to film a scene in various environments including those set forth in the limitations of the claims.

11. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nehemiah et al. and Kato et al. as applied to claim 3 above, and further in view of U.S. Patent No. 3,717,078 to Ogura.

With regard to claim 4, see discussion above with respect to claim 15.

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With regard to claim 5, Nehemiah et al. teach explicitly the silicone to be a gel (see Col. 2, lines 48-51).

12. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,956,291 to Nehemiah et al. in view of U.S. Patent No. 5,089,671 to Ranetkins.

Nehemiah et al. disclose an optical component for underwater use comprising a window (faceplate 5) or a viewing screen, a housing (casing 4) completely filled with silicone, and optical components (LCD 540), wherein the silicone functions as a pressure resistant means (see Col. 2, lines 38, 48-51, Col. 4, lines 60-6, Fig. 4).

Nehemiah et al. do not disclose a method of making the optical component. However, Ranetkins discloses a control module for underwater use comprising a housing (housing 3) completely filled with silicone, wherein the silicone functions as a pressure resistant means, thereby rendering the control module analogous to the optical component of Nehemiah et al. (see Col. 3, lines 51-9). Ranetkins further discloses a method comprising:

evacuating the inside of the housing 3 by pumping;

injecting at least one silicone compound into the housing 3; and

degassing the silicone after it has been injected (see Col. 4, lines 8-11, 51-62).

It is understood that a housing requiring maintenance or repair necessitates a method including the steps of draining the silicone, maintaining or repairing that which

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needs maintenance or repair, evacuating the inside of the housing by pumping, and injecting at least one silicone compound into the housing.

Ranetkins teaches the removal of gas from the housing 3 to function as a means for improving the operation of the control module for underwater use. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate into the method of making the optical component of Nehemiah et al. the step of removing gas from the housing as disclosed by Ranetkins.

Allowable Subject Matter

13. Claims 6, 7, 17, 18, 29 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: The prior art references do not disclose a device in which the housing is filled with a plurality of silicone compounds.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are provided to further show the state of the art with respect to the injection of silicone into the housing of a device for underwater use:

U.S. Patent No. 5,089,895 to Fraker et al.

U.S. Patent No. 5,541,682 to Petruchik et al.

U.S. Patent No. 5,870,632 to Ho

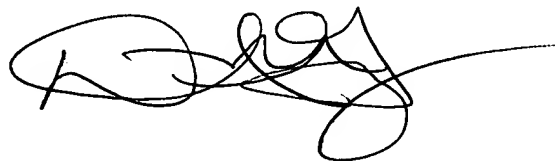
U.S. Patent No. 6,053,623 to Jones et al.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Nguyen whose telephone number is 703-305-2771. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7723 for regular communications and 703-305-7723 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.



DAVID M. GRAY
PRIMARY EXAMINER

mpn
May 30, 2002